

Request for Reconsideration:

Applicants are amending claim 1 to include the limitations of claim 3. Applicants also are amending the application to include an additional drawing, **Fig. 2**, in response to the objections by the Office Action and amendments to the specification including references to **Fig. 2** and text describing **Fig. 2**. No new matter is added by the foregoing amendments, and these amendments are fully supported by the specification. E.g., Appl'n, Paras. [0007], [0013], [0014], [0019], [0021], [0022], and [0024]. Applicants respectfully request that the Examiner enter the foregoing amendments and reconsider the above-captioned patent application in view of the foregoing amendments and the following remarks.

Remarks:

1. Rejections

Applicants acknowledge with appreciation that in view of Applicants' earlier amendments and remarks, the Office Action has not renewed any of the previous rejections based on U.S. Patent No. 5,800,673 to Okuda et al. ("Okuda"). Nevertheless, each of the pending claims, claims 1-10, now stands rejected on new grounds.¹ Specifically, claims 1, 2, and 5-7 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by U.S. Patent No. 3,590,917 to Huber et al. ("Huber"). Moreover, claims 8 and 9 stand rejected under 35 U.S.C. § 103(a), as allegedly rendered obvious by Huber in view of U.S. Patent No. 4,428,418 to Beasley; claims 1-7 stand rejected under 35 U.S.C. § 103(a), as allegedly rendered obvious by Okuda in view of Huber; and claim 10 stand rejected under 35 U.S.C. § 103(a), as allegedly rendered obvious by Huber in view of U.S. Patent No. 4,804,713 to Akiyama. Applicants respectfully traverse.

2. 35 U.S.C. § 102(b)

Claims 1, 2, and 5-7 stand rejected as allegedly anticipated by Huber. "A claim is anticipated if and only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP 2131. The Office Action alleges that Huber describes each and every element as set forth in claims 1, 2, and 5-7. As noted above, Applicants have amended claim 1 to include the limitations of claim 3. Thus,

¹ The Office Action also objects to the drawings as allegedly failing to depict the "first portion of said resin" and the "second portion of said resin." **Fig. 2** depicts these elements.

amended claim 1 and the claims dependent upon amended claim 1 are no longer anticipated by Huber. Therefore, Applicants respectfully traverse.

3. 35 U.S.C. § 103(a)

Claims 8 and 9 stand rejected as allegedly rendered obvious by Huber in view of Beasley; claims 1-7 stand rejected as allegedly rendered obvious by Okuda in view of Huber; and claim 10 stands rejected as allegedly rendered obvious by Huber in view of Akiyama. In order for the Office Action to establish a prima facie case of obviousness, at least three criteria must be met. First, there must be some suggestion or motivation, either in the combined references or in the knowledge generally available to one of ordinary skill in the art, to combine the cited references, in the manner proposed by the Office Action. Second, the prior art references must disclose or suggest all the claim limitations. Third, there must be a reasonable expectation of success. MPEP 2143. For the reasons set forth below, Applicants respectfully disagree.

a. Claims 8-10.

Each of claims 8-10 depends directly from claim 1 and limits the description of claim 1 by identifying a particular type of resin. In view of the amendment of claim 1 to include the limitations of claim 3, Applicants maintain that claims 8-10 are not rendered obvious by Huber in view of Beasley or Akiyama. Therefore, Applicants respectfully transverse the rejections of claims 8-10 and respectfully request that the Examiner withdraw the obviousness rejections of claims 8-10.

b. Claims 1-7.

As noted above, the Office Action rejects claims 1-7 as allegedly rendered obvious by Okuda in view of Huber. Applicants disagree. Specifically, claim 1, as amended, describes a heat exchanger comprising “a first aluminum member coated with a first portion of a resin, and a second aluminum member coated with a second portion of said resin, wherein said first aluminum member is fixed to said second aluminum member via said first portion of said resin and said second portion of said resin, and wherein said first aluminum member is separated from said second aluminum member by said first portion of said resin and said second portion of

said resin.” As such, the resins both fix the aluminum members to each other and separate the aluminum members from each other. See Appl’n, Paras. [0014] and [0021]; **Fig. 2**.

In response to the Office Action previous anticipation rejection of claim 1 based on Okuda, Applicants noted that Okuda fails to disclose or suggest that the first aluminum member is fixed to the second aluminum member via the resin. Okuda describes a heat exchanger including a plurality of tubular elements 1. Tubular elements 1 are fixed to each other by “arranging two dish-like core plates 6 into an inside-to-inside relation and subsequently brazing them at their peripheries 6a to be integral with each other.” Okuda, Column 8, Lines 53-56 (emphasis added). Specifically, a “brazing agent layer is applied by a cladding technique so that the core plates 6 are easily brazed together.” Id. at Column 8, Lines 59-61. Each core plates 6 includes a rib 7, and “a plurality of straight drainage canals 7a are defined by the inwardly protruding recessed ribs 7.” Id. at Column 10, Lines 20-21. Moreover, “in order to improve the drainage of condensed water, it is desirable and effective that the straight canals 7a are covered with a resin coating (S).” Id. at Column 10, Lines 21-24. As such, the purpose of the resin coating (S) applied to straight drainage canals described in Okuda is to increase drainage. The resin coating (S) also may be applied to the surfaces of tubular elements 1. The heat exchanger is assembled by brazing, then submerged in the resin (S), and then subjected to a baking process. Id. at Column 13, Lines 43-57.

Because Okuda describes the brazing of the aluminum plates, Okuda teaches away from any process which coats the plates with adhesive before brazing. MPEP 2145 (x)(D)(2). “Cleaning of the joints is essential for satisfactory brazing. The use of flux or atmosphere to control surface cleanliness is usually necessary.” Eugene Avallone et al., Mark’s Standard Handbook for Mechanical Engineers, 13-41 (9th ed. 1987) (copy enclosed). In particular, Okuda states that it’s “core plates 6 are manufactured by the pressing of a brazing sheet which comprises a core sheet having its front and back surfaces covered with a brazing agent layer. The brazing agent layer is applied by the cladding technique so that the core plates 6 are easily brazed together and also brazed to the adjacent corrugated fins 2. Okuda, Column 8, Lines 56-61 (emphasis added); see also Okuda Column 9, Lines 19-22. Adhesive pre-coating the “bearing locations,” as described by Huber at Column 6, Lines 10-13, would be contrary to the goal of satisfactory brazing. See also Huber, **Figs. 8 and 9**. Moreover, the only purpose which Okuda describes for the resin (S) is to increase drainage. As such, Okuda is silent as to whether

the properties and quantity of the resin (S) are such, that the resin (S) also may fix the two tubular elements 1 to each other. Thus, the Office Action fails to identify a suggestion or motivation to modify Okuda, such that a person skilled in the art would abandon the aluminum to aluminum soldered bond of Okuda and replace that bond with an adhesive bond, and the cited references teach away from their combination in the manner proposed by the Office Action.

Claims 2-7 depend from claim 1. "If an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." MPEP 2143.03 (citations omitted). Therefore, in view of Applicants remarks with respect to claim 1, Applicants maintain that the obviousness rejections of claims 2-7 are untenable and respectfully request that the Examiner withdraw the rejections of claims 1-7.

Conclusion:

Applicants respectfully submit that this application, as amended, is in condition for allowance, and such disposition is earnestly solicited. If the Examiner believes that an interview with Applicants' representatives, either in person or by telephone, would expedite prosecution of this application, we would welcome such an opportunity.

Respectfully submitted,
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Enclosures